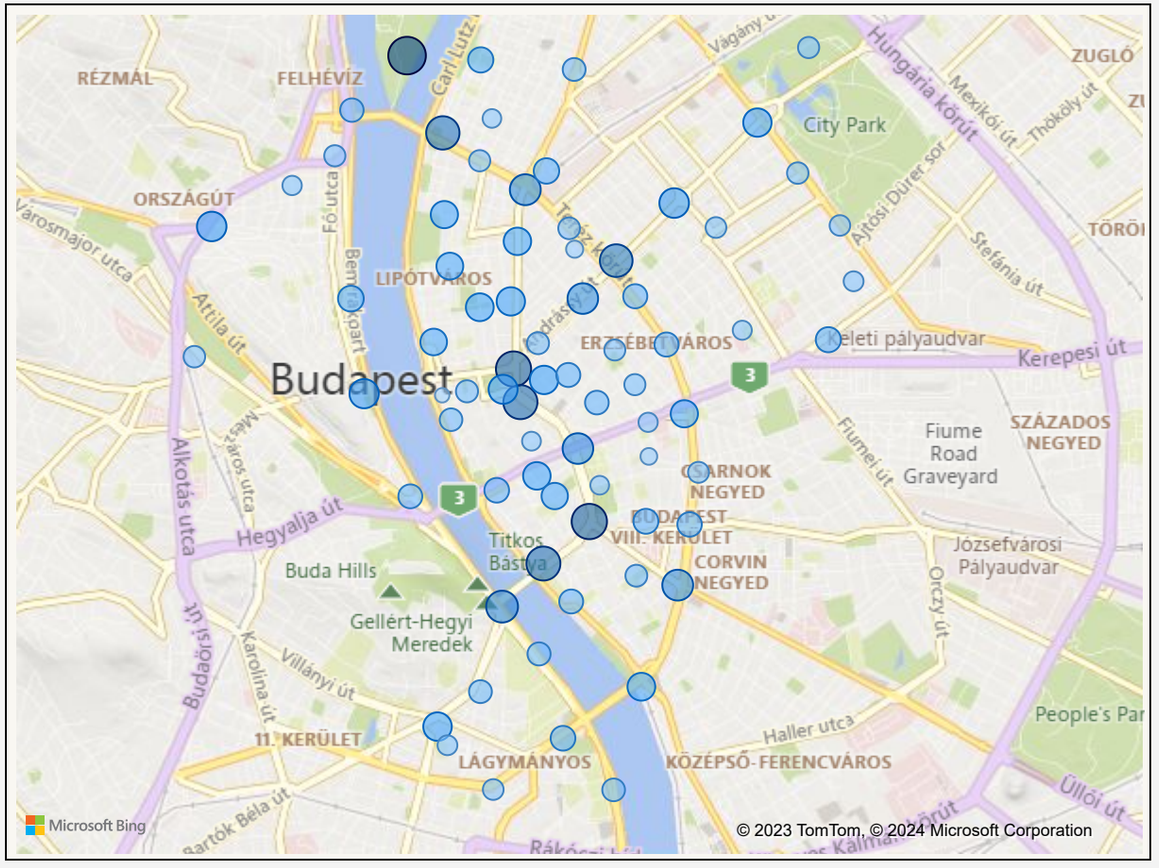
BIKE RENTAL DASHBOARD

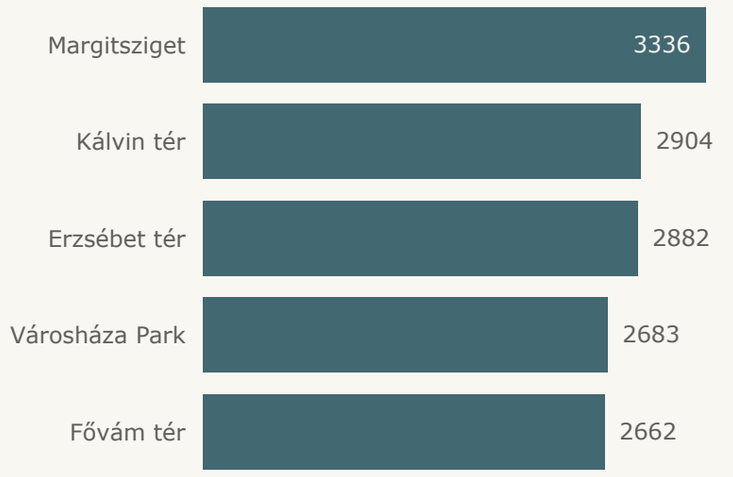
- Station
- Trends
- Weather (Month)
- Weather (Hour)
- Insights

- Jan
- Feb
- Mar
- Apr
- May

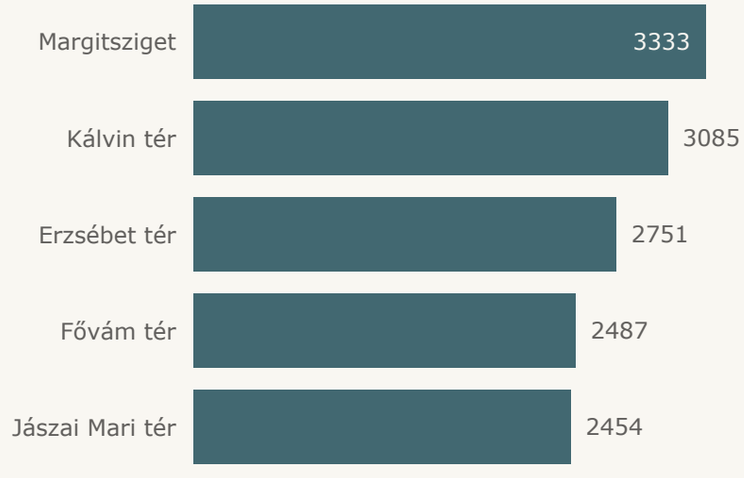
Number of stations	Total bikes	Avg. rental time (min)
75	1086	12.64



Top 5 bike renting stations



Top 5 bike destination stations



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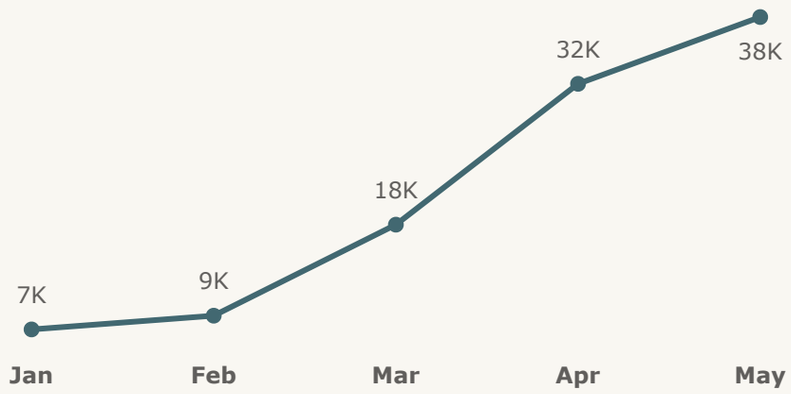
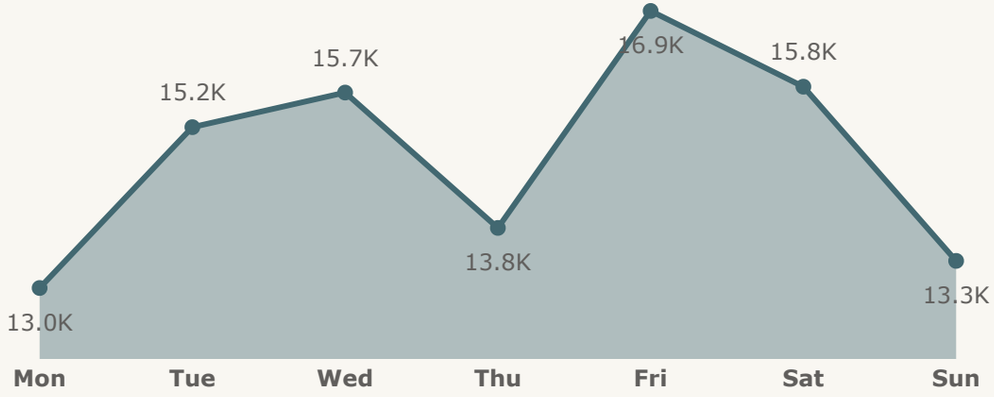
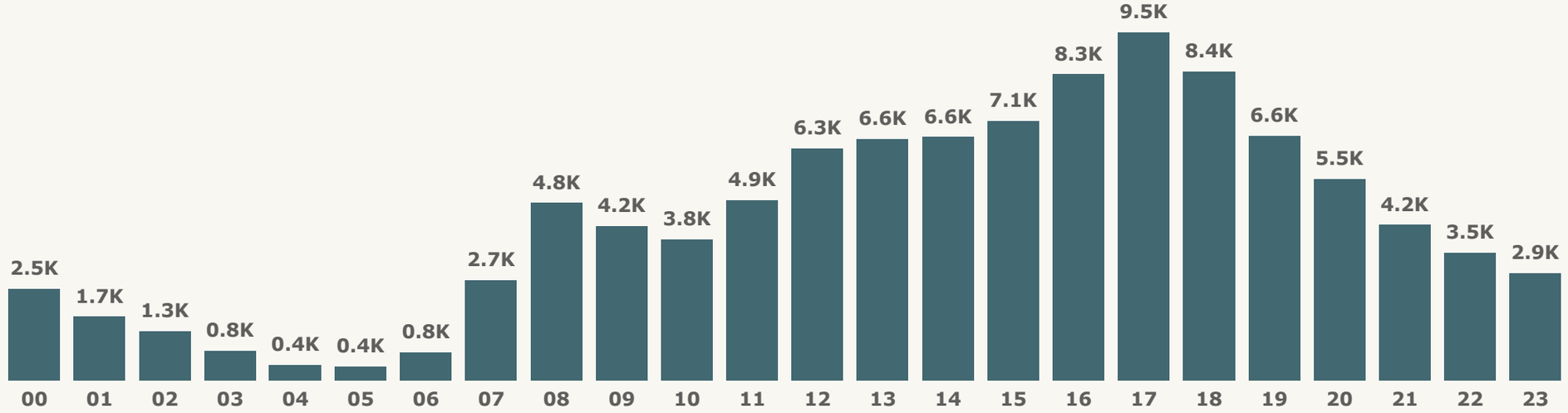
Monthly trend of bike rental



Bike rental activity based on days of the week



Bike rental activity based on an hourly period



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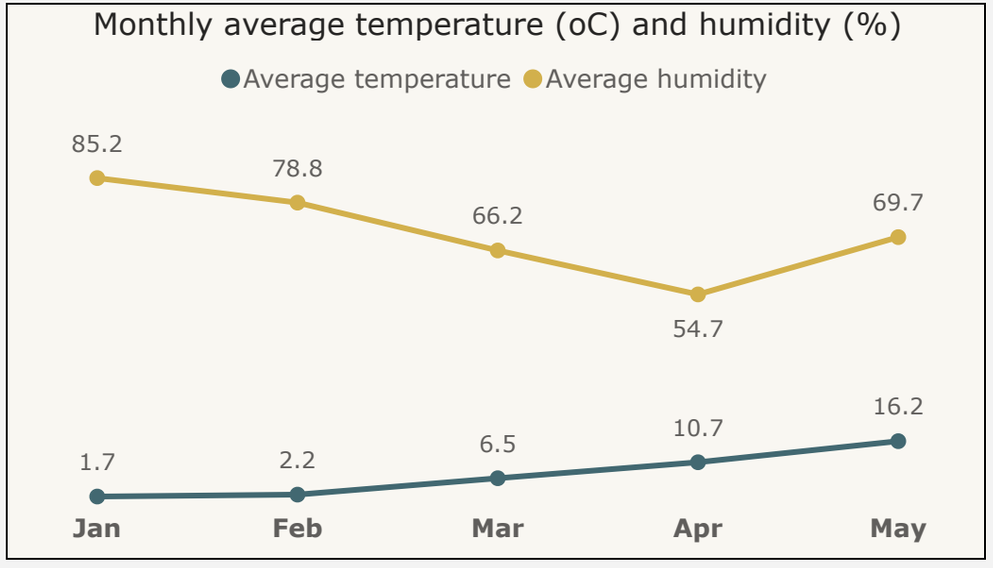

Column1	Month	Rental activity	Temperature	Humidity	Pressure	Windspeed	Fog	Rain	Snow	Thunder
Month	1.00									
Rental activity	0.97	1.00								
Temperature	0.97	0.99	1.00							
Humidity	-0.74	-0.72	-0.63	1.00						
Pressure	-0.23	-0.32	-0.36	-0.31	1.00					
Windspeed	0.30	0.39	0.27	-0.78	0.44	1.00				
Fog	-0.78	-0.77	-0.68	0.91	0.04	-0.57	1.00			
Rain	-0.31	-0.21	-0.10	0.75	-0.45	-0.50	0.76	1.00		
Snow	-0.80	-0.66	-0.65	0.78	-0.20	-0.23	0.78	0.69	1.00	
Thunder	0.71	0.71	0.80	-0.06	-0.68	-0.31	-0.20	0.39	-0.31	1

This correlation matrix shows the relationship between the months, rental activity and weather factors. The values range from -1 to +1, with the closer the correlation of month trend or rental activity to -1 or +1 of the various weather factors, the stronger the relationship between the two variables.

Green shows positive correlation, the two variables move in the same direction. Red shows negative correlation (two variables move in opposite direction).

As the year progressed, the average temperature increased leading to an increase in bike rental activity.

Humidity, snow and fog had a negative correlation with rental activity and month, and caused a decrease in bike rental as the year progressed

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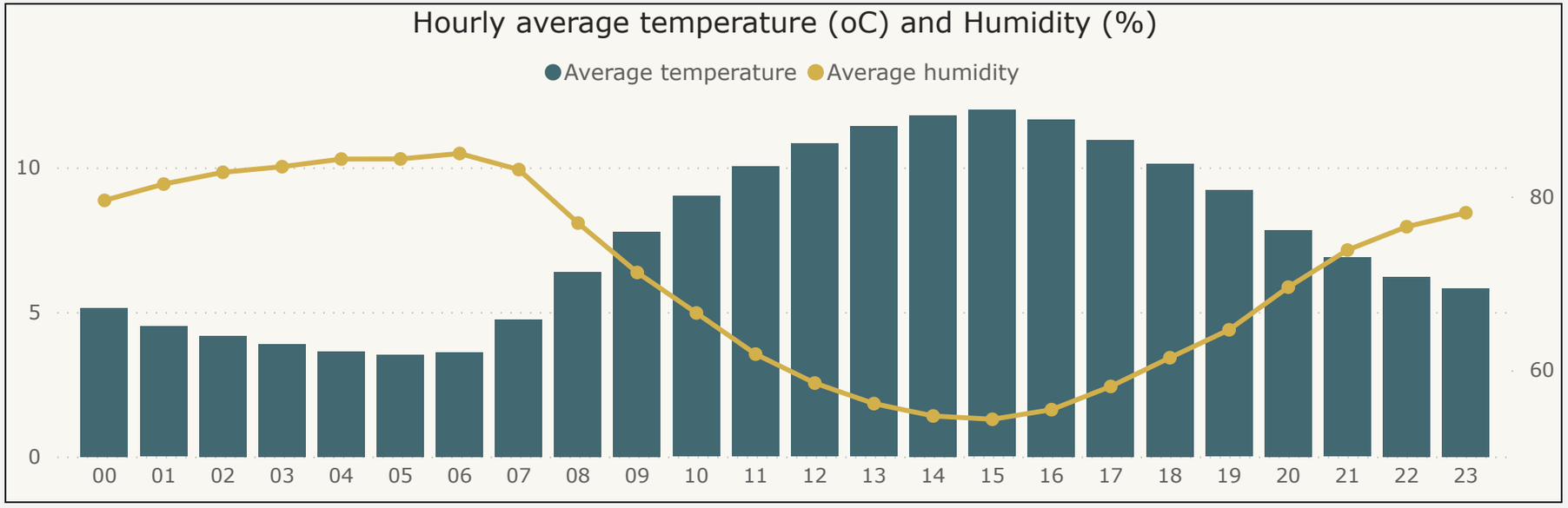

Column1	Hour	Rental activity	Temperature	Humidity	Pressure	Windspeed	Fog	Rain	Snow	Thunder
Hour	1.00									
Rental activity	0.64	1.00								
Temperature	0.56	0.92	1.00							
Humidity	-0.54	-0.92	-1.00	1.00						
Pressure	-0.42	-0.49	-0.35	0.39	1.00					
Windspeed	0.39	0.84	0.97	-0.97	-0.26	1.00				
Fog	-0.44	-0.73	-0.81	0.81	0.32	-0.75	1.00			
Rain	-0.46	-0.82	-0.88	0.89	0.38	-0.85	0.74	1.00		
Snow	0.17	0.07	0.04	-0.07	-0.64	-0.02	-0.25	-0.16	1.00	
Thunder	0.32	-0.21	-0.32	0.32	-0.09	-0.46	0.00	0.21	0.45	1

There was weaker correlation observed among the weather factors at the hour level.
Some correlation was observed with temperature and humidity, with the line graph showing humidity was the lowest between 13:00 - 17:00, which corresponded with the highest average temperature in each day.

BIKE RENTAL DASHBOARD

Task 1

Bike rental activity exhibited a rising trend over the course of the year, with the lowest bike renting activity in January, and May registering the highest bike rental. Temperature and humidity emerged as key weather factors influencing bike rental activity across the months. The average temperature demonstrated a positive correlation with bike rentals, evident in the coldest month (January) having the lowest rental activity, while May, characterized by the highest average temperature, recorded the peak in bike rentals. Conversely, humidity exhibited a negative correlation with bike rentals, indicating fewer rentals on more humid days.

Analyzing both daily and monthly data, it was evident that the majority of bike rentals occurred between 15:00 - 18:00, with 17:00 being the peak time in each month. This peak period had on average the lowest humidity and the highest temperature in each day, providing further evidence for the effect of these two weather factors. The impact of rainfall was noticeable on a day-to-day basis. In each month, days with significant rainfall had low bike rental activity.

TASK 2

Margitsziget, Kálvin tér and Erzébet tér are the three top docking stations where bike rental commenced and also the top destination after bike rental. These stations are the busiest in terms of bike rental activity, making them ideal locations for placing advertisements to ensure maximum visibility.